DOCUMENT RESUME

ED 322 177 TM 015 324

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TITLE Needs Assessment and Evaluation. A Synthesis Paper.
PUB DATE Oct 89
NOTE 19p.
PUB TYPE Information Analyses (070) -- Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Comparative Analysis; *Educational Assessment; Educational Planning; *Evaluation; Literature Reviews; Models; *Needs Assessment; Policy Formation; Problem Solving; Research Needs; Resource Allocation; *Systems Analysis

ABSTRACT

Needs assessment is a young and growing field. Needs assessments contribute to effective educational planning and help educators improve services to students. Needs assessment can be used to identify goals and objectives, but probably has the most utility as a problem-focusing strategy that includes the following sequence: (1) identification of problems, purpose of assessment, and target audiences; (2) determination of what and how data are to be collected and analyzed; and (3) recommendations to ameliorate situations related to these problems. The literature indicates four needs assessment models, not necessarily those most often used, that seem applicable for higher education, industry, and business needs assessment. These models--Kaufman's Needs Assessment Model, Coffing's Client Needs Assessment Model, Lee's Needs Assessment Model, and Harless' Front-End Analysis Model--are compared. Evaluation must be distinguished from needs assessment. Needs assessment looks from the present toward the future; and evaluation looks from the present toward the past. In systems models, needs assessment is the first step and evaluation is the last step. It may also be said that needs assessment is proactive and evaluation is reactive. (SLD)

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NEEDS ASSESSMENT AND EVALUATION

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A Synthesis Paper

October, 1989

TM015324

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NEEDS ASSESSMENT

The field of needs assessment is a young and burgeoning area that has been in the vanguard over the past ten years. Needs assessments contribute to effective educational planning and to help educators in improving services to different student clientele. A survey of literature on needs assessment indicates several definitions of needs. A need is a gap in results and does not relate at all to gaps in processes or resources (Kaufman, 1982). According to Scriven and Roth (1978), a need is a factor or element without which a person cannot function satisfactorily. Stufflebeam (1977), asserts that a need is something that can be shown to be necessary or useful for fulfillment of some defensible purpose. Lenning (1980), defines a need as a necessity or desirable condition, state or situation that should be closed between a current or projected actuality. Kimpston and Stockton (1979), contend that a need suggests a gap or discrepancy between two indices - a desired condition and status quo.

Placed in order of priority, needs may serve as a basis for educational planning. Price et. al (1977), made a distinction between a concern and a validated need. They stressed that people have many concerns which are not

supported by facts and hence are not needs. To them a concern is a hypothesis or belief that there is a difference between existing and desired conditions. The needs assessment process helps to validate this hypothesis.

Two general definitions of needs have popularized during the past fifteen years. In the first definition, "democratic need" is considered a change desired by a majority of some reference group (Scriven, 1978). This method of identifying needs has been used in educational settings. One of the more pervasive problems associated with needs assessment is making certain that the process correctly distinguishes "needs" from "wants" (Kuh, 1982). Some wants, preferences or demands on the part of students or staff may in fact accurately reflect need. If ignored over a period of time, certain wants or preferences may indeed evolve into needs (Lenning, 1980).

In the second definition of needs "discrepancy need" is considered to be a difference between the present state of functioning or performance level and the ideal or acceptable level of functioning or performance (Kaufman, 1972). In other words, needs are thought to be shortfalls in educational or personal development outcomes and often connote negativism or that someting is missing. This method of assessing need has become quite popular for two reasons. First, for conceptual clarity and secondly because of the congruence between this definition and the current realistic goal objective outcome mentality that has characterised education.

In the educational setting needs assessment information can be used in educational planning, in problem solving, for making educational decisions, for accountability and for supporting applications for funding. Needs assessments identify, document and justify gaps in results and selects the most important for attention. Needs analysis breaks these identified needs into their component parts and identifies reasons for the need (Kaufman, 1982). A needs assessment therefore, will allow first to identify and justify needs before attempting to analyse them. It is imperative that needs be identified prior to design of programs and services. Failure to do so institutionalizes and legitamizes irrelevance (Gill and Fruehling, 1979). These authors are of opinion that asking students what they need is the first and most important step toward developing a comprehensive methodology for assessing needs.

Most researchers who advocate the use of needs assessment in the planning process suggest that the results of such assessment be used to generate goal and objective statements for subsequent interventions (Kaufman, 1972). While needs assessment can be used to identify goals or objectives, perhaps it has the greatest utility when viewed as a problem focussing strategy. The primary objective of needs assessment, therefore, is to identify unsatisfactory conditions. In a problem focussed assessment, parameters are placed on data gathering to minimize the risk of accumulating

usable information. Because a needs assessment that is problem focussed attempts to identify unsatisfactory conditions, the tendency for individuals to agree on what is not acceptable or preferable is maximized. Needs assessments that adhere to problem focussed perspective have the following logical sequence:

1. The identification of problems, purpose of the assessment and target audiences.
2. Determination of what and how data are to be collected and analysed.
3. Recommendations to ameliorate the situations related to these problems.

In a needs assessment two types of data are useful. One is based upon controlled observed performance discrepancies (frequently called "hard data" due to its performance based origins and statement in numbers). The other information sources may be from "sensed needs" (frequently called "soft data" due to perception basis for observations) which may be based upon perceptions of experts and planning partners.

Research indicates that needs (gaps in results) may be assessed in one of three types of results namely, products, outputs and outcomes. Products are the results obtained within an organization e.g. a completed course, an acquired skill, an ability or a mastered programming language. An output is a result an organization can or does deliver outside itself e.g. graduates in a program, or a completed or delivered computer system. An outcome is the external impact or consequence that a delivered output has for a client.

Comparison of Some Needs Assessment Models

Several models of needs assessment, some for assessing needs in secondary schools and those that are appropriate for higher education, industry and the military have appeared in literature. The more commonly used models are:

1. The English-Kaufman Model (1975).
2. EPIC Diversified Systems Corporation Model (1972).
3. McGraw-Hill Publishing Company Model (1972).
4. Northern California Program Development Center and The Commission on Higher Educational Planning Phi Delta Kappa Model (1972).
5. Westinghouse Learning Corporation Model (1973).

The above four models have been more commonly used in needs assessment surveys of secondary schools. Each of these models emphasizes the inclusion of representative community members, students as well as educational professional in the process of identifying and ranking priority goals. The Phi Delta Kappa and Westinghouse Models provide a pre-set list of goals for ranking while others offer suggestions for generating goals. All models assume that curriculum planning begins with goals being ranked in order of priority. Of the five models only the Westinghouse Model adds additional explicit criteria for setting priorities i.e. responsibility. As participants in the needs assessment process rank the fifty pre set-goals they are expected to indicate the extent

to which they perceive a goal to the school's responsibility. They are asked to arrive at a judgement of priorities among educational problems or needs after systematically considering two basic questions:

1. Goal appropriateness (is the problem related to educational goals?).
2. Relative deficiency (How great is the measured discrepancy compared to gaps associated with other goals?).

This information will aid to rank or state the identified needs in terms of importance for consideration in planning.

The literature indicates four needs assessment models that seem applicable for higher education, industry and business, They are Kaufman's Needs Assessment Model, Coffing's Client Needs Assessment Model, Lee's Needs Assessment Model and Harless's Front-End Analysis Model.

The Kaufman Model

According to Kaufman (1982), a needs assessment is a formal process for determining gaps between present and desired outcomes and is not a means or procedure to fill those gaps. The author asserts that educational personnel should learn to define problems correctly before jumping into solutions. The usefulness of a needs assessment according to the researcher, depends on the inclusion of the survival of the learners after they legally leave the educational environment. Kaufman suggests that needs data be collected by standardized tests, criterion-referenced tests, observations

(direct and/or unobtrusive), interviews, Nominal Group and Delphi techniques, census data, employment data and polls. In addition, he suggests that data be summarized emphasizing that the data must come from three partners namely learners, educators and the community. A needs assessment assimilates all gaps from all partners, places the gaps in priority order and selects the highest priority gaps for closure (Kaufman 1977).

The Coffing Model

A needs assessment model that is similar in many respects to Kaufman's Model is Coffing's Client Needs Assessment Model. Similarities can be seen by the fact that they both are discrepancy models concerned with gaps, and prioritizing these gaps. Both models are geared toward educational change emphasizing planning stages and involving the components of learners, educators and the community (although Coffing groups all of these under "clients" and also discusses decision-makers and needs assessors as having separate roles within the model). Client's perceptions of needs is of more importance in a needs assessment than the assessors perceptions (Coffing, 1977). Both models are cyclical in nature, although Coffing puts more thrust on this than does Kaufman. The differences between the two models are:

1. Kaufman emphasizes problem solving while Coffing emphasized more on decision making.
2. Coffing puts much more emphasis on the client's perceptions that does Kaufman.

The Lee Model

Similar to Coffing, Lee puts a thrust on the client in his model as Lee (1973) states:

> An important principle in human systems is that those who receive from the system should participate in determining what those services should be.

Lee's model puts thrust on both problem solving and decision making aspects. In congruence with Coffing's views, Lee asserts that the basic purpose of assessing educational needs of students is to provide a data or information base for educational decision making (Lee, 1973).

There are several differences between the problem solving approach suggested in Lee's Model and the more usual approach to dealing with problems in educational systems. The approach to problems in this model is from the educational needs of the students and not from the maintenance needs of the evaluation system. One of the ways that Lee's model differs from the other two previously mentioned models is that the former places emphasis of the affective as well as the cognitive aspects of education, suggesting that objectives should be developed for both domains.

The Harless Model

Harless's Front-End Analysis Model has a dual concern of problem solving and decision making. He refers to this model as a deficiency model indicating something incomplete, insufficient or lacking an essential element. Harless (1975)

defines deficiency as the difference between the actual situation and a model situation. Thus, in actuality makes his model a discrepancy model similar to Kaufman's Model. Although The Harless Model is primarily towards business and industry, its usage is recommended in education as well. Similarily, although Kaufman's Model is primarily suited for educational assessments it is recommended for needs assessment in industry, business, military and the government (Kaufman, 1972).

Harless puts more emphasis on performance in his model than do the other three models and states that for a given performance deficiency there are only three categories or remedies; training, reengineering of the environment and incentive manipulation. Similar to Coffing and Lee, Harless is concerned with decision making and goes into it in great depth as it relates to performance problems. He suggests the following essentials of decison making and recommends drawing up the following matrix in carrying out a needs assessment.

1. List alternatives and assumptions.
2. Determine the factors to be considered on assigning priorities, based on the nature of the organization, the subject matter and the student population.
3. Determine a value scale for each factor.
4. Determine a weight for each factor.
5. For each problem, select a factor value from the value scale.
6. Multiple the factor value times weight of the factor.
7. Repeat steps 5 and 6 for each factor and all problems.

EVALUATION

Evaluation has been described as a process of examining certain objectives and events in the light of value standards for the purpose of making adaptive decisions (Bille, 1978). Evaluation has been considered to consist primarily of tests to measure achievement. However, some educators would dispute this point as it focusses on a rather narrow range of behavior. Gooler, (1977), argues that evaluation includes anything that is relevant to decide whether particular programs, services and conditions are satisfactory in terms of implementing the aims of persons creating, adopting or adapting them. According to Issac and Micahel (1982), the accent of evaluation is not theory building but on product delivery or mission accomplishment. Its essence is to provide feedback leading to a successful outcome defined in practical concrete terms.

Stufflebeam and Webster (1980) assert that the purpose of evaluation is to improve and not prove. According to these researchers three definitions of evaluation have gained acceptance over the past six decades. A definition developed during the 1920s and 1930s equates evaluation with measurement. This view limits evaluation to an examination of variables for which science has developed measurement instruments and obscures the fact that value judgements necessarily are involved in evaluation. A second definition

depicts the process of evaluation as determining the congruence between performance and objectives. One of the difficulties this process poses is the task of developing a sufficiently operational set of objectives by which to test for congruence. A third definition of evaluation equates the process with professional judgement, raising questions about the reliability and objectivity of each evaluation. Hence, Stufflebeam and Webster (1980), define evaluation as the process of delineating, obtaining and providing useful information for judging decision alternatives.

Evaluation is a systematic documentation of the consequences of programs, activities or services and the determination of their worth in order to make decisions about them. Scrivens (1967), distinguished between "formative" and "summative" evaluation. Formative evaluation is undertaken in development and implementation of a program or activity while summative evaluation is conducted after a program or activity has been in operation for a period of time. The purpose of formative evaluation is to guide and assist program development and improvement of activities and services. In contrast, the purpose of summative evaluation is to determine the overall worth of a program, activity or a service and to assist in making decisions concerning continuation, modification or termination.

A typology of evaluation can be based on the kinds of decisions for which the evaluation is to be used. Four

evaluation types have been identified by Guba and Lincoln (1982), to serve four types of decision making. Context evaluation serves decision making for reorganizing of an ongoing activity. In the continued planning of such an activity, decisions have to be made in the context of the goals, needs and target groups to be served. Hence, context evaluation is diagnostic in nature. The end-products of context evaluation are changes which presumably will result in smaller discrepancies between intended and actual outcomes.

The method by which context evaluation is accomplished can be classified into two modes; namely contingency and congruency. The contingency mode of context evaluation looks for discrepancies between possible action and the likely results. The congruency mode of context evaluation compares actual and intended outcomes. This model requires comprehensive and continued collection of data, to allow comparisons between the real and the desired state of affairs. Together the two modes of context evaluation serve both current needs and future changing needs. The congruency mode provides information for planning to conform to current needs while the contingency mode provides information for planning to meet changing needs.

Input evaluation serves decision making in aiding previously identified and clarified goals by context evaluation operational. As a result of input evaluation,

goals may be deemed unrealistic in terms of available resources. Process evaluation serves the day to day decision making required to carry out a program or activity. Product evaluation serves to measure and interpret program or activity attainment. It focusses on the extent to which goals have been observed. Product evaluation usually is identical to summative evaluation.

Differences Between Needs Assessment and Evaluation

To many, needs assessment and evaluation are very similar terms. In fact some writers use them synonymously. Others use evaluation as an integral part of the needs assessment process. Although the two concepts are alike (i.e. some of the same theories and techniques are used in the process), one of the main differences between them relates to the time element (Trimby, 1979). Since needs assessment looks at "what is " and compares it to "what should be" it is looking from the present to the future. In contrast, evaluation looks from the present to the past (Witken, 1975).

Needs assessment and evaluation are related in the systems approach to educational development. In systems models, needs assessment is the first step, while evaluation is the last step. The evaluation of outcomes yields feedback and suggestions for revisions which lead to needs assessment, thus making a loop in the process.

Kaufman (1983), contends that needs assessment is proactive by defining gaps in results, while evaluation is reactive in comparing accomplishments with objectives.

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